

Claims

[c1] 1. A mounting apparatus for an optical sensor, applied to an optical scanner module which comprises a main body and an optical sensor, and the optical sensor having a base plate with a plurality of through holes, the mounting apparatus comprising:
a plurality of screw piles, each of which includes a nut side and a bolting side, wherein an annular fitting board is inserted between each pair of the nut sides and the bolting sides; and
a plurality of screw nuts, each of which is screwed with one of the screw piles at the nut side thereof, such that the base plate is restrained to the screw piles between the annular fitting boards and the screw nuts.

[c2] 2. The mounting apparatus according to claim 1, wherein each bolting side is fixed to the main body, and each nut side has a filet slot thereon

[c3] 3. The mounting apparatus according to claim 1, further comprising a plurality of washers inserted to the screw piles at the nut sides between the screw nuts and the base plate.

[c4] 4. The mounting apparatus according to claim 1, wherein the main body further comprises a plurality of slot openings, each of which further includes a threaded hole therein, so that each bolting side is locked in one of the threaded holes, and the annular fitting boards are positioned in the slot openings, while a depth of the slot opening is larger than a thickness of the annular fitting board.

[c5] 5. The mounting apparatus according to claim 1, wherein glue is dispensed at a connecting part between the bolting side of each screw pile and the main body to allow the screw piles fixed to the main body.

[c6] 6. An optical scanner module, used scan a document, comprising:
a main body;
a light source, disposed in the main body to radiate the document, so as to obtain an image light;
a reflecting mirror set, installed in the main body along an optical path of the image light;

an optical lens, located along the optical path after the reflecting mirror set;
an optical sensor, mounted in the main body and located along the optical path
after the optical lens, the optical sensor having a base plate with a plurality of
through holes;
a plurality of screw piles, each of which has a nut side, a bolting side, and an
annular fitting board therebetween, wherein each nut side is threaded into one
of the through holes; and
a plurality of screw nuts, screwed with the screw piles at the nut sides, so that
the base plate is restrained between the annular fitting boards and the screw
nuts.

[c7] 7. The optical scan module according to claim 6, wherein each of the bolting
sides is locked to the main body, and each nut has a filet slot thereon

[c8] 8. The optical scan module according to claim 6, further comprising a plurality
of washers inserted to the screw piles at the nut sides between the screw nuts
and the base plate.

[c9] 9. The optical scan module according to claim 6, wherein the main body further
comprises a plurality of slot openings, each of which further includes threaded
holes therein, so that each bolting side is locked in one of the threaded holes,
and the annular fitting boards are positioned in the slot openings, while a depth
of the slot opening is larger than a thickness of the annular fitting board.

[c10] 10. The optical scan module according to claim 6, wherein glue is dispensed at
a connecting part between the bolting side of each screw pile and the main
body to allow the screw piles to be fixed to the main body.